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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,750	09/25/2003	Chad A. Cobbley	MICS:0078-1 (FLE/MAN) (0)	1056
52142 7590 03/06/2009 FLETCHER YODER (MICRON TECHNOLOGY, INC.) P.O. BOX 692289 HOUSTON, TX 77269-2289				
EXAMINER				
MITCHELL, JAMES M				
ART UNIT		PAPER NUMBER		
2813				
MAIL DATE		DELIVERY MODE		
03/06/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/672,750

**Applicant(s)**

COBBLEY ET AL.

**Examiner**

JAMES M. MITCHELL

**Art Unit**

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 35, 37-39, 68 and 71-75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35, 37-39, 68, 71-75 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This office action is in response to applicant's amendment filed December 4, 2008.

***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 35, 37, 68, 71-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corisis (U.S. 2003/0189257).
5. Corisis (e.g. Fig. 1) discloses:  
(cl. 35) An integrated circuit comprising: a stack comprising at least two semiconductor die (21a,b), each of the semiconductor die being coupled together by a first adhesive (28), the first adhesive being curable at a first temperature; and  
a substrate (30) coupled to one of the at least two semiconductor die by a second adhesive (28), the second adhesive being curable at a second temperature lower than the first temperature (e.g indicates various materials that encompass the material being different; Par. 0044);

(cl. 73) the device is a memory (Par. 0028).

6. Corisis does not disclose the topside surface area of one of the at least two semiconductor die is less than the topside surface area of a second of the at least two semiconductor die or wherein each die in the die is successively thinner than the previous die.

7. However applicant has not disclosed that his selected thicknesses are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. As such, it would have been obvious to one of ordinary skill in the art to choose these dimensions, since it has been held that mere dimensional limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

8. Furthermore, with respect to adhesives having different ranges of curing temperatures, it would have been obvious to one of ordinary skill in the art to select the claimed curing adhesives, since it has been held that where the general working conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 (CCPA 1955). See also 2144.07 (selection of material prima facie obvious).

9. Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corisis (U.S. 2003/0189257) in view of Huang (US006753206B2).
10. Corisis discloses the elements recited in paragraphs s5-8 of this office action and further memory devices (Par. 0028) of this office action except for the stack being a shingle stack (defined in the instant specification where the die centers are not aligned).
11. Huang teaches a shingle stack (Fig. 2, 5).
14. It would have been obvious to one of ordinary skill in the art to modify the stack of Corisis et al. (U.S. 2003/0189) in view of Eskildsen (U.S. 2003/0102567)
15. Corisis discloses the elements of paragraphs 5-8 of this office action except for the stack being a shingle stack (defined in the instant specification where the die centers are not aligned), use of memory chips or wherein each die in the die stack is successively thinner than the previous die a the die approach the substrate.
16. However, Eskildsen (Fig. 5) teaches use of a shingle stack (e.g. center of chips not aligned) and use of memory chips (Par. 0031) with logic (Par. 0031) wherein each die is successively thinner than the previous die (e.g. different functions have different thicknesses).
17. It would have been obvious to one of ordinary skill in the art to modify the stack of Wang such the chips centers are offset/ not aligned in order to stack the die without regard to die/chip/dice size and to form the chips of Wang to include memory and logic whereby the dies have different thicknesses in order to form smaller electronic devices like notebook computers as taught by Eskildsen (Title; Par. 0002).

18. Moreover, with respect to having a shingle stack, arranging chips to the left or right of one another, or placing chips successively thinner than the previous die as the die approach the substrate this would not change/ modify the MCM operation. As such, the claimed rearrangement would have been obvious to one of ordinary skill in the art as a matter of design choice. See e.g. In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (the particular placement of a contact in a conductivity measuring device was held to be an obvious matter of design choice); In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (Claims to a hydraulic power press which read on the prior art except with regard to the position of the starting switch were held unpatentable because shifting the position of the starting switch would not have modified the operation of the device).

19. In addition, applicant has not disclosed that his selected thicknesses are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. As such, it would have been obvious to one of ordinary skill in the art to choose these dimensions, since it has been held that mere dimensional limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

***Response to Arguments***

20. Applicant's arguments with respect to reversed claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES M. MITCHELL whose telephone number is (571)272-1931. The examiner can normally be reached on M-F 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew Landau can be reached on (571) 272-1731. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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